

Missouri Statewide Health Information Exchange

Technical Infrastructure Workgroup

Jefferson City, MO
December 3, 2009



Agenda

Topic	Facilitator(s)	Time
Welcome & Introductions	Co-Chairs	15 minutes
HIE & HITECH Opportunities	Co-Chairs & Manatt	15 minutes
Project Overview <ul style="list-style-type: none">➤ Workgroup Framework➤ Timeline➤ Tasks	Co-Chairs & Manatt	20 minutes
Strategic Plan Components	Co-Chairs & Manatt	15 minutes
Considerations & Key Questions	Co-Chairs	40 minutes
Next Steps	Co-Chairs & Manatt	15 minutes

Welcome & Introductions

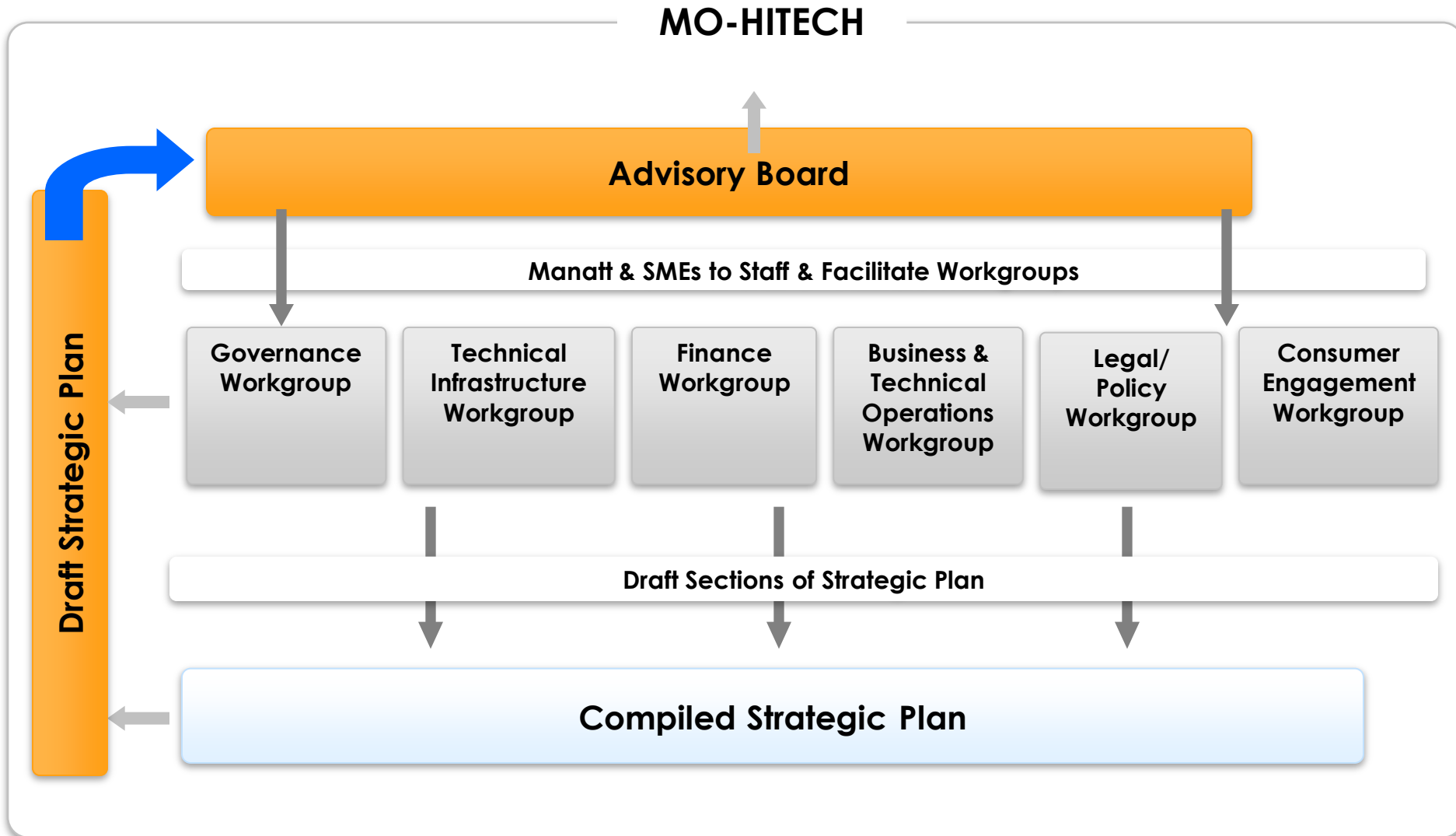
➤ Co-Chairs

- Mitzi Cardenas, CIO, Truman Medical Center
- Doug Young, CIO, Information Technology Services Division

➤ Staff

- George Oestreich, Deputy Division Director – Clinical Services MO HealthNet Division, Department of Social Services
- Tim Andrews, Senior Advisor, Manatt Health Solutions
- Kier Wallis, Senior Analyst, Manatt Health Solutions

Building the Strategic Plan – Workgroup Framework



Project Tasks & Timeline through May 2010

State HIE Grant Application

Letter of Intent Submitted

Project Initiation

Begin Landscape Assessment & Interviews

Sept Oct

- Support State application process
- Conduct stakeholder interviews

Strategic Plan

Submit Application to HHS

Executive Order 09-27

Statewide Kickoff Meeting

Nov Dec Jan 2010 Feb

- Establish MO-HITECH
- Establish Advisory Board
- Convene Workgroups
- Draft Strategic Plan
- Publish Draft Strategic Plan for Review
- Develop detailed project timeline and work plan
- Engage and educate stakeholders

Submit Strategic Plan to HHS

Publish Draft Strategic Plan for Review/Comment

Operational Plan

Submit Operational Plan to HHS

Publish Draft Operational Plan for Review/Comment

Mar April May

- Convene Advisory Board & Workgroups
- Draft Operational Plan
- Publish Draft Operational Plan for Review
- Update project timeline and work plan
- Engage and educate stakeholders

Building the Strategic Plan –Draft Timeline

Weeks	Planning	Kickoff		First Draft	Final Draft	
Nov 9	Confirm AB membership					
Nov 16	Announce Wkgps & Kickoff Meeting					
Nov 23	Finalize Kickoff Meeting Materials					
Nov 30	AB – Advisory Board Wkgps – Workgroups Subject Matter Experts – SMEs	Launch AB - 12/2	Launch Wkgps -12/3			
Dec 7				Workgroups Meet Regularly & Prepare 1 st Draft of Deliverables		
Dec 14				Manatt & SMEs to Advise Wkgps		
Dec 21				Draft due to Manatt & MO-HITECH: 12/23		
Dec 28				Manatt to Compile First Draft		
Jan 4 2010				First Draft distributed to MO-HITECH & AB		
Jan 11				AB to review First Draft		
Jan 18					Wkgps to Revise First Draft	
Jan 25					Manatt & SMEs to advise Wkgps	
Feb 1					Drafts due to Manatt & MO-HITECH: Feb 5	
Feb 8					Manatt to compile revised Draft & distribute to Mo-HITECH & AB	
Feb 15					AB to review revised Draft	
Feb 22					Manatt & MO-HITECH to make final revisions	Finalize & Submit Strategic Plan

Building the Strategic Plan – Advisory Board and Workgroup Tasks

- **Week of November 30th: Kickoff**
 - Launch Advisory Board (December 2nd)*
 - Host statewide kickoff meeting (December 2nd & 3rd)
 - Identify key deliverables and timeline
 - Identify workgroup leadership/co-chairs
 - Assign tasks (e.g. writing, research)
- **November 30th – December 23rd: First Draft**
 - Workgroups to meet weekly or bi-weekly (as determined necessary)
 - Draft Strategic Plan content & circulate for review
 - Incorporate workgroup revisions and feedback
 - Submit for incorporation into first draft
- **December 23rd – January 15th : Fill in Gaps**
 - Work with Manatt & subject matter experts to address gaps in first draft
 - Review Advisory Board & MO-HITECH feedback
- **January 15th – February 5th: Second Draft**
 - Revise Strategic Plan content based on Advisory Board & MO-HITECH feedback
 - Submit for incorporation into second draft
- **February 5th – February 28th: Finalize Strategic Plan**
 - Workgroup Co-Chairs to work with Manatt & subject matter experts to finalize Strategic Plan content
 - Submit Strategic Plan to ONC (Target submission date: February 28, 2010)

Building the Strategic Plan: Workgroups

- **Led by appointed Co-Chairs**
- **Open membership**
- **Staff supported**
- **Areas of focus**
 - Governance
 - Finance
 - Technical Infrastructure
 - Business & Technical Operations
 - Legal/Policy/Privacy
 - Consumer Engagement
- **Meetings & frequency**
 - Kickoff meeting: December 3rd, Jefferson City
 - Workgroups will meet weekly or bi-weekly following kickoff meeting (as necessary)
 - Meetings will be accessible via teleconference, but in-person participation is recommended; all meetings will take place in Jefferson City

State HIE Grant Application: MO-HITECH Cooperative Agreement Program

- **Submitted to ONC on October 16th**
- **Proposed project will:**
 - Develop a Strategic and Operational Plan to support the development of HIE capacity and infrastructure among Missouri's health care providers
 - Be overseen by a public-private Advisory Board that will provide guidance to MO-HITECH
 - Convene collaborative public stakeholder Workgroups to inform strategy development around the key areas of
 - Governance
 - Technical infrastructure
 - Finance
 - Business and technical operations
 - Legal/Policy
 - Consumer Engagement
 - Identify how the State may leverage existing regional HIE and health IT investments, as well as investments that the State has made in its technical infrastructure
 - Be closely coordinated with Medicaid and public health stakeholders to ensure that providers of underserved populations are able to participate in HIE and achieve meaningful use of EHRs

State HIE Grant Application: Technical Infrastructure

- The Technical Infrastructure Workgroup will be tasked with
 - Reviewing examples of technical models being pursued in other states and identify pros and cons of those models relative to Missouri's needs
 - Developing a statewide technical infrastructure to support statewide HIE, including a plan for the prioritization and development of HIE services including
 - Electronic eligibility and claims transactions
 - Electronic prescribing and refill requests
 - Documenting existing regional and state efforts and investments and resources that may be leveraged to advance statewide HIE
 - Determining whether or how shared technical services may be utilized for the state's approach to HIE
 - Making recommendations relative to technical requirements and core services to support Missouri's health IT and HIE efforts, including the identification of protocols and standards to support statewide HIE

Technical Infrastructure

Defining the architecture to organize and deploy shared services and resources at the state, regional, and local levels.

ONC's Achievements Expected by 2011

- **Technical Infrastructure:** Develop or facilitate the creation of a statewide technical infrastructure that supports statewide HIE.
- **Identify and Leverage Resources:** Leverage existing regional and state level efforts and resources that can advance HIE, such as master patient indexes, health information organizations (HIOs), and the Medicaid Management Information System (MMIS).
- **Shared Services:** Develop or facilitate the creation and use of shared directories and technical services, as applicable for the state's approach for statewide HIE.

Building the Strategic Plan: Workgroup Deliverables

Workgroup	Deliverables
Governance	<ul style="list-style-type: none"> ➤ Description of governance entity including membership, authority, and governance model ➤ Description of how state will address HIE accountability and transparency ➤ Description of coordination with Medicaid, federally-funded state programs, and other ARRA programs (e.g. broadband)
Finance	<ul style="list-style-type: none"> ➤ Business plan that enables financial sustainability of HIE governance and operations by 2014 ➤ Develop and update project budget
Technical Infrastructure	<ul style="list-style-type: none"> ➤ Description of how infrastructure will facilitate interoperability ➤ Description of technical approach and architecture to be used including HIE services to be offered (<i>if applicable</i>) ➤ Review and augment environmental scan of HIE
Business & Technical Operations	<ul style="list-style-type: none"> ➤ Implementation strategy to address how the state will meet meaningful use requirements ➤ Description of incremental approach for HIE services to reach all geographies and providers ➤ Identify plan and timeline for NHIN participation
Legal/Policy	<ul style="list-style-type: none"> ➤ Describe MO and interstate privacy and security issues related to HIE ➤ Describe plans to analyze state laws ➤ Describe development of policies and procedures to foster HIE ➤ Describe the use of trust agreements (e.g. data sharing and use agreements) ➤ Describe how the state will address noncompliance with HIE policies
Consumer Engagement	<ul style="list-style-type: none"> ➤ Consumer engagement and outreach plan ➤ Develop communications and educational materials for consumers, general public, and press

Building the Operational Plan: Workgroup Deliverables

Workgroup	Deliverables
Governance	<ul style="list-style-type: none"> ➤ Description of coordination and interdependencies with relevant ARRA programs (e.g. REC, broadband, and workforce development) ➤ Description of governance and policy structures, including their ongoing development
Finance	<ul style="list-style-type: none"> ➤ Detailed cost estimate for the implementation of the Strategic Plan ➤ Detailed schedule describing the tasks and sub-tasks to be completed, including resources, dependencies, and specific timeframes ➤ Description of proposed resolution and mitigation methods for identified issues and risks ➤ Staffing plans for the project, including project managers and description of key roles ➤ Description of activities to implement financial policies, procedures, and controls to ensure compliance with GAAP and OMB Circulars
Technical Infrastructure	<ul style="list-style-type: none"> ➤ Description of efforts to become consistent with HHS adopted interoperability standards and certification requirements as part of the planned implementation ➤ Description of the technical architecture and how its requirements will ensure statewide availability of HIE among healthcare providers, including plans for protection of health data ➤ Description of how the technical architecture will align with NHIN core services and specifications ➤ Description of technical solutions to develop HIE capacity and enable meaningful use
Business & Technical Operations	<ul style="list-style-type: none"> ➤ Project schedule describing tasks and sub-tasks to be completed to enable statewide HIE ➤ Identification and description of issues, risks, and interdependencies within the overall project ➤ Description of how the state will leverage current HIE capacities ➤ Description of state-level shared services and repositories to be leveraged (if applicable) ➤ Explanation of standard operating procedures and processes for HIE services will be developed and implemented (not required)
Legal/Policy	<ul style="list-style-type: none"> ➤ Description of how statewide HIE will comply with applicable federal and state legal policy requirements, including the process for developing and implementing policy requirements ➤ Description of interdependence of governance and oversight mechanisms ➤ Description of plans for privacy and security harmonization and plans for interstate coordination ➤ Address how state will comply with federal requirements for data protection
Consumer Engagement	<ul style="list-style-type: none"> ➤ Consumer engagement and outreach plan ➤ Communication messages and educational deliverables for dissemination

Strategic Plan Timeline & Deliverables

Technical Infrastructure	Strategic Plan
Charge	<ul style="list-style-type: none"> ➤ Description of how infrastructure will facilitate interoperability ➤ Review examples of technical models being pursued in other states and identify pros and cons of those models relative to Missouri's needs ➤ Document existing regional and state efforts and investments and resources that may be leveraged to advance statewide HIE ➤ Develop recommendations around development of a statewide technical infrastructure to support statewide HIE, including the prioritization and development HIE services, such as: <ul style="list-style-type: none"> • Electronic eligibility and claims transactions • Electronic prescribing and refill requests ➤ Determine whether or how shared technical services may be utilized for the state's approach to HIE ➤ Recommend technical requirements and core services to support Missouri's health IT and HIE efforts, including the identification of protocols and standards to support statewide HIE
Deliverables	<ul style="list-style-type: none"> ➤ Description of how infrastructure will facilitate interoperability ➤ Description of technical approach and architecture to be used including HIE services to be offered (<i>if applicable</i>) ➤ Review and augment environmental scan of HIE
Tentative Timeline (Week(s) of)	<ul style="list-style-type: none"> ➤ Dec 2 & 3: Attend Statewide Kickoff Meeting to review & confirm Workgroup charge; distribute assignments ➤ Dec. 9: Provide comments and feedback on threshold questions (above) to Workgroup staff and co-chairs; please send feedback to kwallis@manatt.com ➤ Dec. 14: Workgroup meeting to review collected feedback ➤ Dec. 23: First draft due to MO-HITECH & Manatt ➤ Jan. 8: Manatt to distribute feedback/questions to Workgroup ➤ Jan. 11: Review draft Strategic Plan sent to Advisory Board ➤ Jan. 18 – Feb. 5: Revise draft Strategic Plan components based on Advisory Board & MO-HITECH feedback ➤ Feb. 5: Workgroup to submit updated draft ➤ Feb 5 - 28: Workgroup to meet ad hoc to address questions and revise Strategic Plan Content
Co-Chairs	<p>Mitzi Cardenas, CIO, Truman Medical Center</p> <p>Doug Young, CIO, Information Technology Services Division</p>
Staff	<p>George Oestreich, Deputy Division Director-Clinical Services MO HealthNet Division, Dept. of Social Services</p> <p>Tim Andrews, Senior Advisor, Manatt Health Solutions</p>

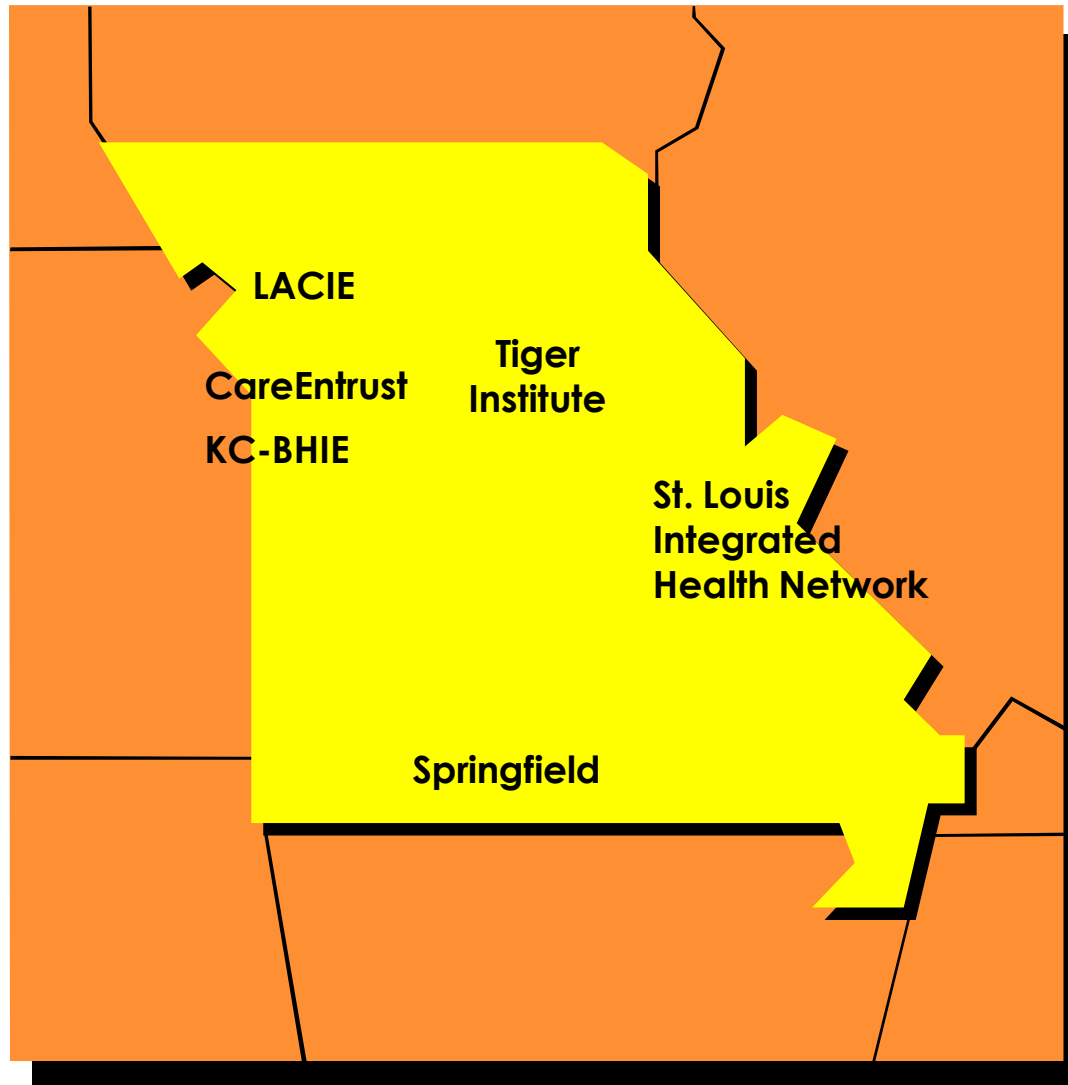
Technical Infrastructure: Considerations

- At any point in time the organizational networks will be in different stages of their life cycles, will be built on many different technologies, and have differing priorities regarding the data they collect and transmit.
- Within this heterogeneous and dynamic landscape, technical architectures address complexity by defining the principles, patterns and processes to guide the design and construction of the system.
- Ideally, the statewide architecture is built on a “minimal necessary” approach supporting shared services that can be cost-effectively consumed by local entities.
- Standards, even national standards, are necessary but not sufficient to enable robust HIE. There are myriad details that can vary across implementations. Successful implementation may require the creation of implementation guides to constrain options.
- Coordinating integration of EHR's with HIE efforts to leverage assets integrated through shared services deployed via statewide HIE: access to Medicaid and other state government assets, access to other HIO (RHIO) assets or newly developed shared services
- Enabling meaningful use via the HIE to leverage EHR's: avoiding the point-to-point connection via each EHR vendor that will decrease leverage and access (vendors will naturally tend to promote their own networks connecting only their practices rather than open networks)

Technical Infrastructure: Observations, Lessons from Other States

- **Three currently prevalent approaches to statewide interoperability**
 - Provision of services via a single “utility” (common in smaller states like DE, ME, RI, VT)
 - Facilitation of exchange by conformance to agreed upon protocols, implementation guides (common in larger states like FL, MI, NY)
 - A network of “health record banks” through which patients’ directly control access to their health information (OR, WA)
- **Examples of technical services being offered on a Statewide basis**
 - Master Provider Index, Master Patient Index
 - Record Locator Service
 - Authentication and Identity Management
 - Access to State government assets: e. g. registries, Medicaid claims
- **Services selected and prioritized based on**
 - the clinical value generated
 - the degree of competition for the service
 - the breadth and depth of potential clients
 - anticipated net revenue and return on investment
 - technical difficulty
 - vendor interest, capabilities, and costs for service provision
 - the “readiness” of standards

Missouri Landscape – HIE Initiatives



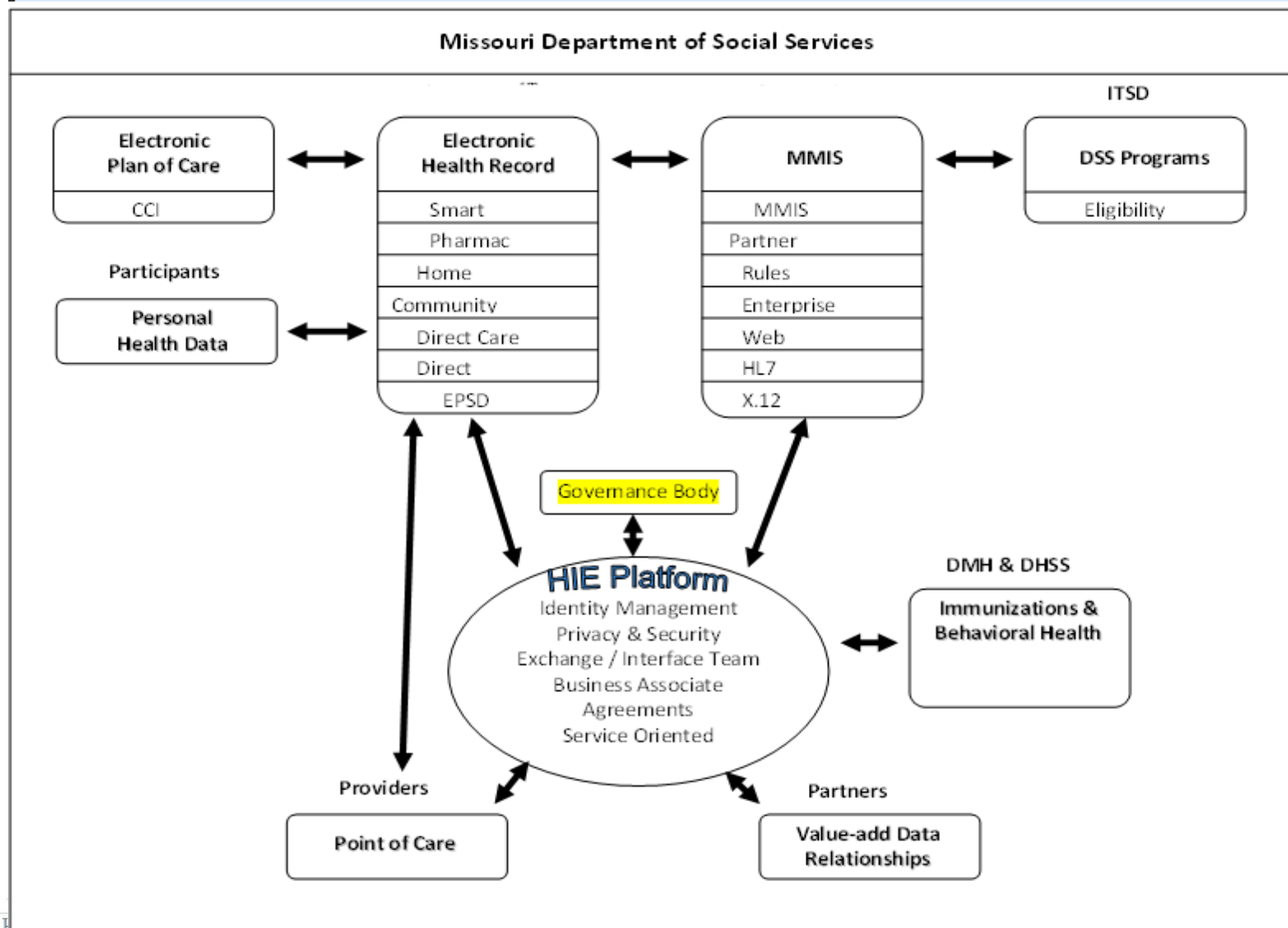
Interview Findings – HIE Initiatives Snapshot *DRAFT*

HIE	Year	Region	Org	Technology Approach	Operational* (Data Exchanged)	NHIN	Clinical Priorities	Financing to Date	Sustainability Model
CareEntrust	2007	Kansas City	501c3	Centralized	<ul style="list-style-type: none"> Centralized Claims (read-only) Self entered Clinical data (read-only on interfaces plus some direct entry) 	NA	<ul style="list-style-type: none"> Consumer access & control Provider access to clinical data at the point of care 	Employer supported (annual contributions)	Employer supported
Kansas City Bi-State HIE	2009	Kansas City (13 counties in MO; 12 in KS)	Incubated by Mid-America Regional Council	Hybrid	NA; RFP released	NA	<ul style="list-style-type: none"> Enhance access, quality, safety & the efficiency of health care 	Foundation supported	In development
LACIE	2009	St. Joseph	Subsidiary of Heartland Health; 501c3 pending	Hybrid model: Aggregated & federated	2 hospitals are exchanging data	NA	<ul style="list-style-type: none"> Clinically driven exchange Quality & safety for patients 	Heartland Health Hospital has provided funding to date	In development
Springfield – Greene County Regional Health Comm.	2009	Springfield & Greene Counties	501c3	TBD	NA	NA	<ul style="list-style-type: none"> Improve patient care through HIE Medical home 	Missouri Foundation for Health	In development
St. Louis Integrated Health Network	2003	St. Louis	501c3	Hybrid model: Aggregated & federated	Data feeds are currently in testing	NA	<ul style="list-style-type: none"> Emergency department discharge summaries & ADT data 	Hospitals and community health centers have provided funding to date	County has allocated funding; business case is in development
Tiger Institute	2009	Mid-Missouri	Subsidiary of the University of Missouri	TBD	NA	NA	In development	University of Missouri supported	In development

Missouri Landscape – Public Sector Assets

- Department of Social Services
 - MO HealthNet
 - CyberAccess© web portal
 - Care Connection
 - MO HealthNet HIE/EHR
 - Departmental Client Number (DCN)
- Department of Health and Senior Services
 - Missouri Health Strategic Information Cooperative (MOHSAIC)
 - Immunization registry
- Department of Mental Health
 - Customer Information Management, Outcomes & Reporting (CIMOR)
 - Comprehensive data warehouse from both legacy systems
historic data
- Missouri Telehealth Network (public-private)

Missouri Landscape – Relationship Diagram

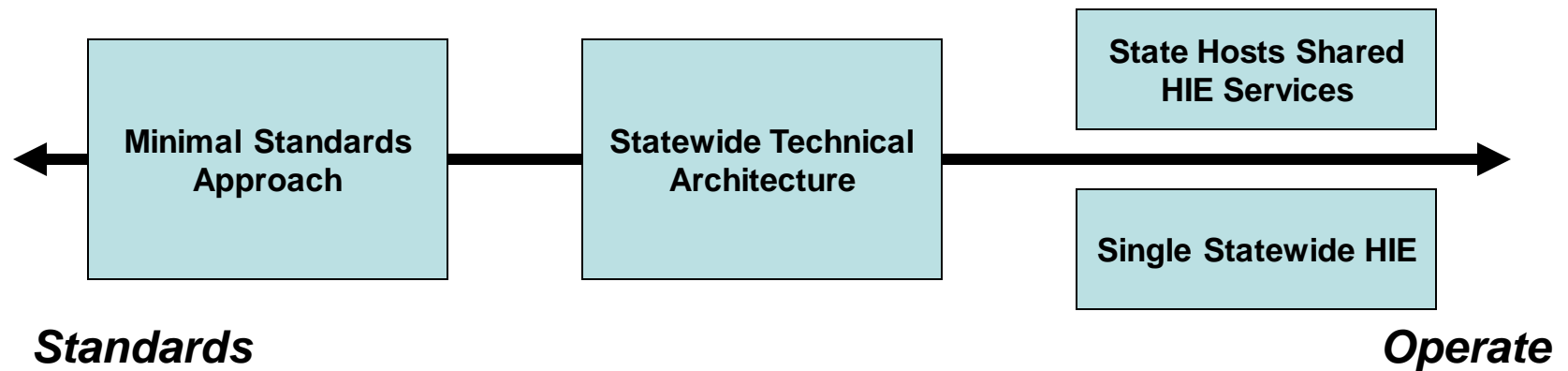


Missouri Landscape – EHR Roadmap

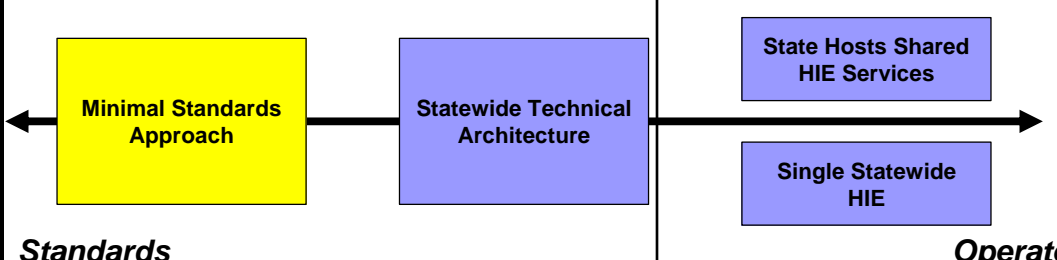
Year	MITA 2.01 Roadmap					MITA
2012	Multi-tier Benefit Pkgs		Broader SOA Services		National Exchanges	Level 5
2011	ICD-10 Clinical Data	5010 Formats	SOA Services	Unlimited Claim Size	Regional Exchanges	Level 4
2010	Provider Web Services	Participant Web Services	Rules Engine	Broader EHR Collaboration		Level 3
2009	Workflow & Imaging	Real-time Adjudication	Browser MMIS	DB2 Solutions	ACS / EHR Exchanges	Level 3
2008	Interoperability & Standards		Modernization Applications		Modernization Infrastructure	Level 2
2007	DDI Services		IV&V Services		Modernization Planning	Level 1
2006	MITA SSA	CMS APD	State RFP	DDI Award	IV&V Award	Level 1

Technical Infrastructure: Continuum

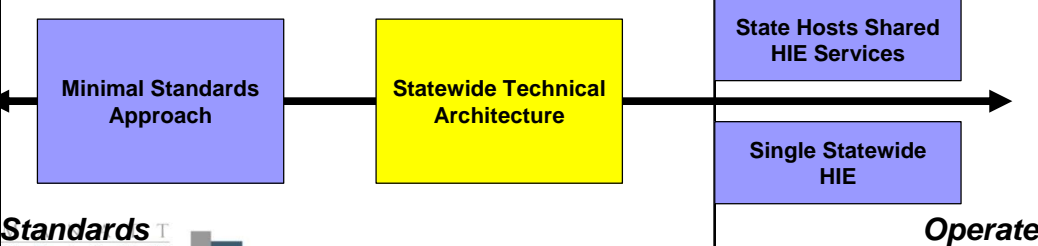
- Does the State need to establish technical policies to meet its interoperability goals?
- Does the State need to operate any or all HIE services?



Technical Infrastructure – Option 1

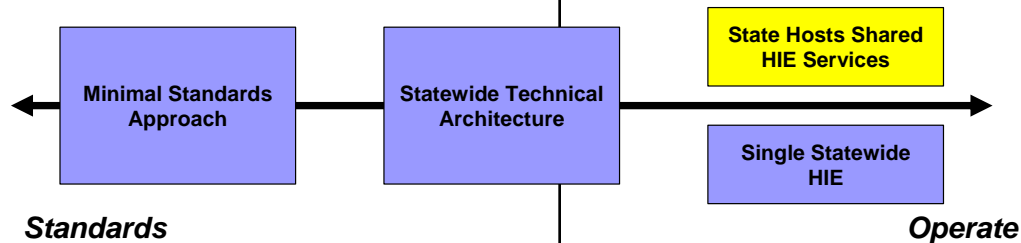
Option	Pros	Cons
<p>Minimal Standards Approach</p> <p>State follows minimal federal standards and lets existing efforts work as they see fit to integrate.</p>  <p>Standards</p>	<ul style="list-style-type: none"> ➤ Maintains consistency with federal approach ➤ May better address specific implementation requirements among local providers 	<ul style="list-style-type: none"> ➤ Localized implementations will be more difficult to interoperate statewide ➤ Potentially limits provider participation ➤ Implementations may not comply with State privacy and security requirements ➤ May not guarantee compliance with State reporting, surveillance requirements, and health outcomes

Technical Infrastructure – Option 2

Option	Pros	Cons
<p>Statewide Technical Architecture</p> <p>Statewide architecture will conform to federal standards. Multi-stakeholder group defines architectural requirements and implementation guidelines including specific standards implementations to enable broad interoperability; and establishes standards and protocols for HIE functions including infrastructure, data exchange, terminology mappings, etc.</p>  <p>The diagram illustrates a progression from left to right. It starts with a blue box labeled 'Minimal Standards Approach'. An arrow points to a yellow box labeled 'Statewide Technical Architecture'. From this yellow box, an arrow points to two stacked blue boxes: 'State Hosts Shared HIE Services' on top and 'Single Statewide HIE' on the bottom. Below these boxes, the word 'Operate' is written.</p>	<ul style="list-style-type: none"> ➤ Assures optimized use of funds through a common technical approach and evaluation of statewide demand for shared services ➤ Builds collaborative culture to support technical decisions ➤ Leverages knowledge and resources across the private and public sectors ➤ Ensures state compliance with federal standards ➤ Allows for regional technical variation within limits 	<ul style="list-style-type: none"> ➤ Resource intensive process may lengthen implementation timelines ➤ May require adjustment in regional and/or State direction ➤ May require voluntary compliance

Technical Infrastructure – Option 3

Option	Pros	Cons
<p>State Hosts Shared HIE Services</p> <p>Multi-stakeholder group defines architectural requirements and implementation guidelines including specific standards implementations to enable broad interoperability; and establishes standards and protocols for HIE functions including infrastructure, data exchange, terminology mappings, etc. In addition, state hosts or contracts for specific HIE services that are determined valuable to offer at a State-level. Some examples of such services include RLS, eMPI, etc. Regional HIEs are required to contract with the State for these services.</p>	<ul style="list-style-type: none"> ➤ Straightforward approach ➤ Requires minimal consensus ➤ State retains control and management of some assets ➤ Facilitates interoperability among HIEs using State services 	<ul style="list-style-type: none"> ➤ Regions maintain flexibility ➤ There may not be consensus as to what services the State should host ➤ Some efforts may have existing implementations that are not compatible with State services



Technical Infrastructure – Option 4

Option	Pros	Cons
<p>Single Statewide HIE</p> <p>A single statewide HIE that all stakeholders are required to participate in to gain access to public funds and State data is established and maintained.</p> <p>Standards Operate</p>	<ul style="list-style-type: none"> ➤ Promotes consistency ➤ Facilitates statewide interoperability 	<ul style="list-style-type: none"> ➤ May require adjustment in regional and/or State direction approaches ➤ Resource intensive process may lengthen implementation timelines ➤ May require voluntary compliance

Technical Infrastructure – Discussion Questions

- How may Missouri best leverage existing investments of regional HIEs and the state to advance statewide HIE?
- What are the technical principles that must be followed to achieve a statewide technical architecture that is flexible and adaptable?
- What architectural patterns will guide the development of Missouri's statewide technical architecture?
- How will the technical approach employ existing standards and protocols?
- What process should Missouri undertake to identify and prioritize the implementation of HIE services and activities to correspond to meaningful use objectives?
- How will Missouri develop use cases to pursue statewide HIE?

Next Steps

- **Review Application & Project Narrative**
 - <http://dss.missouri.gov/hie/files/pca-project-narrative.pdf>
- **Review Strategic Plan requirements**
 - Funding Opportunity Announcement:
http://healthit.hhs.gov/portal/server.pt?open=512&objID=1336&parentname=CommunityPage&parentid=2&mode=2&in_hi_userid=10741&cached=true
- **Identify additional stakeholders for future Workgroup participation**
- **Review identified tasks and assignments**
- **Submit feedback and comments on discussion questions by December 9th to kwallis@manatt.com**
- **Next Meeting: December 16th, 9:00 am – 11:00 am**
 - 205 Jefferson St, Jefferson City MO 10th floor Conference Room B